The Effects of Peer Observation and Intervention on Teacher Effectiveness in Ho Polytechnic

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Abstract

The purpose of the study was to assess the extent to which peer observation and review of teaching can be effective in Ghanaian tertiary institutions. Twenty academic staff and 300 students from Ho Polytechnic participated in the study. The study was one group pretest-posttest design. The treatment involved teaching, peer observation and discussions. An observation guide and interviews were used to collect data. An alpha level of 0.05 was used for all statistical tests. The results showed that lecturers increased the number of class assignments they gave and provided timely feedback to students. Lecturers also became more accessible to students and showed more preparedness to work with students. The lecturers who participated in the study found feedback from colleagues extremely useful. It is recommended that Ghanaian tertiary institutions give peer observation and review of teaching attention on their campuses.

Peer observation of teaching is essentially a one-on-one activity where colleagues observe each other's performance in teaching and learning with a specific focus and provide feedback. It is also regarded as an "intentional process of gathering information and evidence about the effectiveness of the teaching and learning process and the educational environment with a view to subjecting it to constructive criticism" (Flinders University, 2002, p. 1). Peers are a valuable source of input in the educational enterprise and their contributions to improvements in the quality of education should not be underestimated.

The National Association for Teachers in Further and Higher Education (NATFHE) (2002) in the UK noted that:

Peer review and observation is a process whereby a third party observes, and provides feedback on teaching and learning support taking place in a university or college. Its purposes are to strengthen and enhance the quality of teaching and learning by providing feedback to the staff observed, to provide opportunities for staff to learn from each other, and to assist with staff development. The first guiding principle of observation should be that it is developmental rather than judgemental (p. 1).

Bradley (1996) underscored the appropriateness of a continuous approach to staff development through careful evaluation and monitoring by peers who as well learn from the experience of others. He stated that "the use of a 'critical friend' to provide a second perspective of our work-talking with us at the planning stage, occasionally observing us teaching or sharing teaching with us, taking an active part in evaluating whether we have achieved the degree of success we planned – has been shown to be very useful aid to self —evaluation" (p. 5). Blackwell and McLean (1996) further discovered that observation of teaching has been central to the methodology of Teaching Quality Assurance (TQA) introduced by funding councils in England. They revealed that peer observation has been seen as a tool for combating the problems of ensuring quality in the wake of expanded responsibility and dwindling funding levels hence the accelerated pace of introducing developmental observation and feedback on teaching from mentors.

Blackwell and McLean (1996) believed that peer observation of teaching provides a relatively unthreatening way of addressing the quality problems in education since it is an activity that takes place between colleagues in an established academic unit, where clear aims and objectives are agreed upon and relate to improving teaching through reflection. They claimed that peer observation of teaching provides reassurance through positive feedback to staff as it provides feedback on innovations and reveals hidden behaviour and thus encourages staff or enables staff to rectify the problem by extending the sense of enquiry and curiosity that drives much of the best research into teaching and stimulating critical reflection on teaching performance. Duke (1992), Brown and Sommerlad (1992), both cited in Blackwell and McLean (1996), were convinced that peer observation of teaching could emerge as a key component of continuing professional development for all academic staff, enable collective reflective practice to become a realistic target for universities and contribute to the creation of a 'Learning University'.

Gosling (2002) distinguished three distinct models of Peer ()bservation and Review of Teaching (PORT). These were (a) a management/performance model, (b) a developmental model and (c) a peer review model. The management model uses senior staff to observe other staff with the purpose of identifying underperformance, confirming probation, appraising, promotion, quality assurance and assessment. The developmental model uses educational developers to observe practitioners or uses expert teachers to observe others in the department with the purpose of demonstrating competence or improve teaching competencies. The peer review model uses teachers to observe each other with the purpose of engaging in discussions and teaching and for self and mutual reflection.

The third model, peer review model, is the model of choice for this study. This model was chosen because the primary purpose of the study was to assess the extent to which peer observation and review of teaching can enhance teaching and learning as well as promote personal growth through discussions as colleagues observed each other. Hutchings (1994) suggested four reasons why peer review of teaching is important. In the first place, student evaluations of teaching cannot account for certain substantive aspects of teaching. Only lecturers with appropriate knowledge can evaluate such aspects. Secondly, since teaching entails learning from experience, collaboration among lecturers promotes improvement. Thirdly, peer reviews lead to respect for the profession. Fourthly, peer reviews put lecturers in charge of the quality of their work. Braskamp and Ory (1994, p. 202) stated that "Peer observations are particularly useful in a program of faculty self-assessment and improvement. Instructors who wish to analyze their own teaching and student learning can benefit from a colleague's observation. classroom observations can be flexible and informal."

Peer observation and review of teaching has been practiced in Europe, USA, Australia and New Zealand with success. In Australia, Bell (2002) reported that there is evidence from the Universities of Monash and Wollongong that peer observation of teaching has been a learning activity for teachers. She reported that there "is a great deal of anecdotal evidence that peer observation improves teaching and develops collegiality and effective practice" (p. 8). In New Zealand, the Waikato Institute of Technology's Professional Development Unit and the University of Auckland's School of Engineering carry out peer observation (Bell, 2002).

After going through a peer review session, Hsu (2002) from the University of Maine, USA, commented that:

I have found both the encouragement and critical suggestions by the observers useful in helping me work out my practices. Thus, I felt encouraged to continue working with students in helping them think through the mathematics that they are learning and doing while I became more careful in weighing how much time I could spend in drawing students into a discussion versus the time I would need for new topics. (p. 3)

In the USA, D'Andrea (2002) reported that peer review of teaching developed in response to several demands on higher education. These demands included (a) public perceptions that undergraduate education was a low propriety in universities and in need of added emphasis, and (b) dissatisfaction with the evaluation of teaching which was based primarily on student evaluations of teaching.

Peer Review of Teaching was boosted in 1994 in the United States of America when the American Association of Higher Education (AAHE) obtained funding for the project, "From Idea to Prototype: the Peer Review of Teaching". The major outcomes of this project were:

- 1. Expanded possibilities for collaborations and review of teaching by scholarly peers;
- 2. New genres and prototypes for capturing the scholarship in teaching;
- 3. Changes in teaching strategies employed, in particular increased use of active learning methods;
- 4. Changes in campus policies, practice and culture around teaching; and
- National conversations on campuses and in scholarly communities about Peer Review Teaching.

In the University of Texas at Austin, peer evaluation of teaching is an essential part of a faculty member's promotion and tenure file. Peer observation is one part of the evaluation of teaching for improvement or for personnel decisions for merit, promotion and/or tenure. In Ghana, the practice of peer observation and review of teaching has not been given much attention in higher education. Though the practice of peer observation and review of teaching has been used extensively in African countries such as Kenya, Nigeria and Tanzania, it can be concluded that the practice is not considered a useful part of teaching and learning in Ghana. This study, which is a preliminary one, was an attempt to bring to the fore the important role peers can play to further enhance teaching and learning in higher education. The main purpose therefore is to assess the extent to which peer observation and review of teaching can be effective in tertiary institutions in Ghana. Specifically, this preliminary study attempted to answer the following questions:

- 1. What is the effect of peer observation on a lecturer's commitment to teaching?
- 2. What is the effect of peer observation on a lecturer's general style of teaching?
- 3. What is the effect of peer observation on a lecturer's assessment of student progress?
- 4. What is the effect of peer observation on lecturer-student relationships?
- 5. What is the opinion of lecturers on the introduction of peer observation of teaching as a means of staff appraisal?

Method

Participants

Four out of 10 departments were purposefully selected and used in the study. From the four departments, 20 academic staff members took part in the study. Within these 4 departments were 29 lecturers. Nine of the lecturers did not take part in the study for undisclosed reasons and reasons such as unpreparedness, personal, pressing issues and unwillingness to be observed. The Departments of Accounting, Marketing, Secretaryship and Management Studies provided the lecturers. These academic departments were selected because one of the co-authors taught in these departments.

The co-author therefore possessed adequate knowledge of the content of most of the courses and how they ought to be taught.

Three hundred (300) students were selected to take part in the study. These students consisted of 45% in each class observed and selected through stratified random sampling as follows: (a) Above average students (15%), (b) Average students (15%) and, (c) Below average students (15%). The categorization became crucial in enhancing reliability. It was believed that overweighting the views of one group of students could jeopardize the validity and reliability of the findings.

Research Design

The study was a one-group, pretest-posttest design. In this design, a single group is measured or observed not only after being exposed to a treatment but also before the beginning of the treatment (Fraenkel and Wallen, 2000). In this study, students responded to an observation guide on staff appraisal as a pre-test. Teachers then taught and were observed by peers. After each observation, a discussion took place on the teaching observed. The teachers taught again and the students responded to an observation guide as a post-test. The main purpose was to examine the effect of the treatment on the lecturers' teaching performance. Best and Kahn (1998) identified five major threats to internal validity with respect to this design as history, maturation, testing, instrumentation and interaction of selection and maturation. However, the data collection procedure greatly minimized or removed the effects of these threats. Dependent samples (paired sample) t-test was used in the data analysis with a 0.05 level of significance.

Instrument

A twenty-six item classroom observation guide was constructed and used. The observation guide was made up of five parts. These included (a) commitment to teaching with 2 items, (b) competence in subject matter with 3 items, (c) general style of teaching with 16 items, (d) assessing students' progress with 2 items and, (d) relationship with students with 3 items. A three-point scale of adequate (given a value of 1), inadequate (given a value of 2) and not at all (given a value of 3) was used. Content validity evidence was obtained through expert judgment done by a University of Cape Coast

lecturer in Educational Measurement and Evaluation. Cronbach's alpha of 0.93 was obtained as an estimate of the inter-observer reliability.

The observation guide was designed to guard against appraisers trying to play safe by adopting a mid-way position, halo effect and the making of statements that cannot be substantiated. Columns were provided for evidence and remarks, which demanded proofs for, and reasoning behind each performance rating from the assessors.

Procedure

Discussions were first held with the Principal and Vice-Principal of the Ho Polytechnic on the objectives of the study. When the approval was granted, further discussions were held with the heads of the departments involved in the study and the entire academic staff of the polytechnic. Students from the departments selected for the study were also briefed on the objectives of the study and the role they would play.

Academic staff in the four departments was consulted on their participation in the study and twenty accepted to be part of the study. The observation guide was shown to them and they were briefed on how to complete them as self-appraisers. Students were also trained on how to complete the observation guide with explanatory notes for their guidance.

A schedule, consisting of date of observation, time of observation, class to be observed and the subject to be observed, was developed in consultation with the 20 lecturers. At the appointed date and time one of the co-authors, went to observe. Each of the 20 lecturers was observed on two different occasions (pre-intervention and post-intervention). In all cases, whole lessons were observed. These lasted for three hours. However, in very few cases, two- and one-hour lessons were observed. The study was carried out within one semester of three months.

At the end of each lesson, a time was agreed upon for postobservation meeting. The minimum period for the post-observation meeting was forty-five minutes while the maximum was seventy-two minutes. During the meeting, which was held in a congenial atmosphere, the results of the observation were discussed. Areas that were well handled were congratulated. Actions that need to be taken to improve upon other areas were also listed.

Results

1. What is the effect of peer observation on a lecturer's commitment teaching?

Lecturer's commitment to teaching was assessed by two items on the questionnaire. These items related to the lecturer's regularity and punctuality in class. Information was obtained on all the 20 lecturers from 300 students. The results are provided in Table 1.

Table 1

Dependent samples t-test on lecturers' commitment to teaching

Period	N	Mean	SD	df	t	p-value
Pre-observation	300	1.85	0.358	299	-2.47	0.014
Post-observation	300	1.87	0.337			

The dependent samples t-test for equality of means showed a statistically significant result, $\underline{t}(300) = -2.47$, $\underline{p} < 0.05$. The result implied that there was a change in the commitment to

teaching. The post-observation mean ($\underline{M} = 1.87$, $\underline{SI}) = 0.337$) was greater than the pre-observation mean ($\underline{M} = 1.85$, $\underline{SI}) = 0.358$). Teachers became a little more regular and punctual in class. Though the result is statistically significant, it must be realized that the mean change of 0.02 units, shows just a slight increase. This result is not surprising since commitment to teaching takes a longer time to stabilize and this intervention was for only a three-month period.

2. What is the effect of peer observation on a lecturer's general style of teaching?

Lecturer's general style of teaching was assessed by 16 items on the questionnaire. The style of teaching involves adequate preparation, questioning ability, pacing of teaching, methods of teaching, stimulating student interest, individual attention, and time management. Information

was obtained on all the 20 lecturers from 294 students. The results are provided in Table 2.

Table 2
Dependent samples t-test on lecturers' general style of teaching

Period	N	М	SD	df	t	p-value
Pre-observation	294	1.57	0.499	293	-1.582	- 0.115
Post-observation	294	1.58	0.473			

The dependent samples t-test for equality of means did not show a statistically significant result, $\underline{t}(293) = -1.582$, $\underline{p} > 0.05$. Lecturers used the lecture method of teaching mostly during the pre-observation stage. However, after the observation, they continued to use the lecture method because class sizes were still large and the infrastructure and equipment required to use methods that are different from the lecture method were not put in place during the period of the study.

3. What is the effect of peer observation on a lecturer's assessment of student progress?

Lecturer's assessment of student progress was assessed by two items on the questionnaire. The items involve giving enough and relevant assignment to reinforce learning and grading and providing frequent and timely feedback to students. Information was obtained on all the 20 lecturers from 297 students. The results are provided in Table 3.

Table 3

Dependent samples t-test on lecturers' assessment of student progress

Period	N	М	SD	ďť	1	p-value
Pre-observation	297	1.26	0.580	296	-7.70	0.000
Post-observation	297	1.42	0.490			

The dependent samples t-test for equality of means showed a statistically significant result, $\underline{t}(296) = -7.70$, $\underline{p} < 0.05$. The result implied that there was a change in the lecturers' assessment of student progress. The post-observation mean ($\underline{M} = 1.42$, $\underline{SD} = 0.490$) was greater than the pre-observation mean ($\underline{M} = 1.26$, $\underline{SD} = 0.580$). Formative assessment takes place in the Polytechnic as 40% of the final grade in each course comes from continuous assessment scores during the semester. Though class sizes were still large and workload per tecturer was still high, the lecturers improved upon their assessment of student progress. The increase of 0.162 unit over the pre-observation mean is of real practical significance.

3. What is the effect of peer observation on lecturer-student relationship?

Lecturer's relationship with students was assessed by three items on the questionnaire. This was obtained through lecturer's making themselves accessible to students, their preparedness to work with students outside class hours and showing genuine interest in students learning and having good rapport with them. Information was obtained on all the 20 lecturers from 297 students. The results are provided in Table 4.

Table 4

Dependent samples t-test on lecturer-student relationships

Period	N	М	SD	df	t	p-value
Pre-observation	297	1.40	0.610	296 -7.91		0.000
Post-observation	297	1.57	0.552			

The dependent samples t-test for equality of means showed a statistically significant result, $\underline{t}(296) = -7.91$, $\underline{p} < 0.05$. The result implied that there was a change in the lecturer-student relationships. The post-observation mean ($\underline{M} = 1.57$, $\underline{SD} = 0.552$) was greater than the pre-observation mean ($\underline{M} = 1.40$, $\underline{SD} = 0.610$). This implies that lecturer's became more actively involved with the students after the intervention. The 0.165 unit increase over the pre-observation mean is of real practical significance.

4. What is the opinion of lecturers on the introduction of peer observation of teaching?

From the professional dialogue session, the concept of peer observation and review of teaching (PORT) was highly appreciated by the lecturers who took part in it. The lecturers were happy about the opportunity to discuss the findings together. Most (80%) of the lecturers expressed their willingness to partake in regular PORT exercises. The majority (90%) of the lecturers saw the observation exercise as challenging since it involves being observed by one's own peers who know much about the techniques of teaching and the subject matter.

Lecturers liked the post observation interviews, especially when the feedback from the responses to the questionnaires was communicated to them. Sixty percent of the lecturers expressed surprise about some of the revelations made since their attitude and aims of doing certain things they did were at variance with the interpretations given to them by the students. These lecturers were happy that it would serve as a means of getting to

know themselves even better. Most (85%) of the lecturers were unaware of the impact their attitudes had on students. The findings underscore the importance and the need for self- awareness in teaching and interactions with colleagues and students.

Discussion

This study has a number of limitations. In the first place, it was conducted in one institution with a limited number of lecturers (i.e. 20 in all). Secondly, only one co-author did the observation of the peers. Thirdly, there were only two observations of each lecturer. Fourthly, items assessing commitment to teaching and student progress were very few in number.

In spite of the limitations of the study, the results have shown that peer observation of teaching has a great potential in improving the performance of lecturers as well as the quality of teaching and learning in general in higher educational institutions in Ghana.

In a number of tertiary institutions, student appraisal of teaching effectiveness is often used to judge the effectiveness of lecturers. However, this approach of using student appraisal has a number of problems. Students who find lecturers to be very strict and maintain discipline in their classes are graded down by the students. Lecturers who receive a poor grading from a particular class sometimes change their attitude from friendliness to antagonism, and makes scathing comments like, "You students think I do not know how to teach". Other lecturers who receive poor reports have revenge on their minds. Secondly, lecturers who are very generous with grades are often given extremely favourable remarks by the students irrespective of their approach to teaching. Students' appraisal of teaching effectiveness should therefore not be the sole judge of a lecturer's effectiveness in teaching. Peer observation reports can be combined with the student reports to produce more information on lecturers' effectiveness.

Peer observation and review of teaching is both developmental and remedial. Lecturers are able to know their areas of weakness in teaching through the professional dialogue and together both the appraised and the appraiser (peers in action) work out ways to improve upon the quality of teaching. It is not only the appraised that gain knowledge from the professional dialogue, but the appraisers also learn from the process. They

are exposed to a variety of teaching issues and techniques as well as a wealth of knowledge that would have an impact on their own teaching.

The study has shown that a number of lecturers were not aware of the impact and interpretations that were associated with their actions and attitudes. Staff appraisal, through the peer observation of teaching, enables the individual lecturer to become aware of the impact his/her teaching has on learners and assists him/her in modifying his/her teaching techniques when found necessary.

A major finding of practical significance was the improvement in the lecturers' assessment of student progress. Assessment of student progress plays important roles in higher education. Assessments enable students to acquire certificates and degrees that are needed for employment in the world of work. Students primarily gain admission to institutions of higher learning to acquire skills that will make them marketable in the world of work. The acquisitions of skills are testified by the certificates and degrees awarded them. The award of the certificates, diplomas and degrees are based on the scores that are obtained through the assessments of their work. It is therefore important that care is taken in providing the grades, marks or scores on which the decision to award the certificates, diplomas and degrees are based.

Assessment also enables lecturers to determine the progress made by each individual student in learning. The feedback or knowledge of results that lecturers provide helps students to identify their own strengths and weaknesses. It helps the lecturers also to discover the learning difficulties of the students and thus provide remedial action. It is therefore important that assessment results are reliable and valid. This helps in making wise and informed decisions on the students.

The interventions in the study also led to improved lecturer-student interactions. Lecturer-student relationships are important in promoting teaching and learning. A good relationship creates a congenial environment where students can relax and concentrate on their academic studies. Rogers (1981) believed that positive human relationships enable people to grow and therefore instruction should be based on concepts of human relations. The lecturer's role is that of a facilitator who has a personal relationship with students and who guides their growth and development. When the right atmosphere is created in the lecture room, student progress becomes rapid.

The process of peer observation of teaching should first involve a meeting between the observed and the observer. During this interview, the purpose of the observation and the observation guide would be discussed. Both should agree in advance about the focus of the observation. The observation should be open. There should be no hidden or restricted statements or issues. After the observation, feedback should be provided in the form of a professional dialogue. The discussion should begin with the areas of strength before engaging in a discussion of areas that require improvement. Finally, the observed should reflect on the feedback and issues discussed during the dialogue to crystallize the gains from the observation.

To determine who should do the observation, it is important to consider the purpose of the review. For peer observation and review of teaching to improve the quality of teaching and learning in higher institutions, the lecturer being reviewed should play a role in selecting or providing the names of reviewers. This aspect is important because the observed lecturer will be more receptive to constructive criticism from a colleague that is trusted. Departments may develop guidelines on the choice of reviewers. Where possible, the lecturers can change the appraisers from time to time. Each institution should develop a lecturer observation guide which each lecturer would use for the observation. After each observation, the appraiser and the appraised should hold a professional dialogue after analyzing the results of the guide together.

It must be noted however that peer observation of teaching has a number of weaknesses. In the first place, data is often biased due to previous data, personal relationships and peer pressure. Secondly, peer relationships may suffer. There may be loss of respect. Thirdly, there is possible bias due to an observer's preference for own methods of teaching and learning. Fourthly, there is the fear of being exposed as an incompetent or lazy lecturer. These weaknesses can be overcome mainly through training, as well as free and frank discussions on the importance of the PORT.

It must also be noted that PORT can be time-consuming and demands additional time from the observer. The observer has to use his/her own private time for the observation since institutions may not include that in the official minimum number of periods each lecturer is expected to lecture for a week. Diplomatic and personal skills of the observer would

come into play. An untrained observer may reinforce bad practice, resulting in misgivings about the program. Lecturers' may also make unusual efforts at teaching but this may be to the advantage of the teaching-learning process.

When used effectively, PORT (a) makes the private act of teaching a public collaborative process, (b) creates a new environment for evaluating teaching and learning, (c) provides multiple data sources for evaluation of teaching and learning, (d) provides a more complete and more accurate assessment of the teaching and learning enterprise (e) encourages a dialogue about teaching and (f) has multiple beneficiaries (D'Andrea, 2002). In addition, PORT promotes self-assessment, provides new ideas and skills on teaching and learning, stimulates discussions among colleagues about teaching and learning, and results in improvements in teaching and learning.

Conclusions and Recommendations

Results from the study have shown that the peer observation and review of teaching could bring about an increase in the quality of teaching and learning in higher educational institutions. Tertiary institutional heads would stand to gain if this process is introduced in their various institutions.

The gains from the practice of peer observation and review of teaching would however be dependent upon the use of the following recommendations. It is recommended that the code of confidentiality should be observed in the process. Peers who identify weaknesses in the performance of their colleagues must be circumspect in how they use the information. They must help the colleague in overcoming them in a healthy and supportive atmosphere. Information obtained should be used exponentially to strengthen the flaws and weaknesses detected on the appraised.

It is also recommended that a peer observation of teaching policy be made as a guideline for the exercise and should be a component of continuous improvement in teaching and learning. The policy should address the following questions.

- 1. What are the institutional goals and purposes for the observation and review?
- 2. What should be observed and how frequent?

- 3. Who should do the observation and review?
- 4. How should the observation and review be conducted?
- 5. What instrument should be developed and used?
- 6. How would the observation and review results be used?
- 7. What issues and problems are likely to arise?

Finally, on the basis of the limitations and weaknesses in the present study, it is recommended that further research on this topic **should** increase the number of lecturers to be observed as well as the number of peer observers. In addition, there should be more than two observations of each lecturer. Further, the number of items assessing commitment to teaching and student progress should be increased.

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